STRUCTURE 197

This structure is a thirteen-barreled corrugated metal pipe culvert, located near the mouth of Canal 111 about 3 miles from the shore of Manatee Bay and 750 feet east of U.S. Highway 1. Control is effected by manually operated gates. For the 10 additional culverts completed in 1990, the drawing number is C111-21 and the contract number is C90-1001.

PURPOSE

This structure maintains optimum upstream water control stage in Canal 111 and prevents saline intrusion during high tides. Most of the time S-197 diverts discharge from S-18C overland to the panhandle of the Everglades National Park and releases water only during major floods according to the established guidelines.

OPERATION

The structure is closed except for the conditions described below.

OPEN CULVERTS: Opening of S-197 culverts will begin when water levels exceed specified levels at the referenced structures:

S-177 HW* > 4.10 after gates have been opened full**
or S-18C HW > 2.80: open 3 culverts.

S-177 HW > 4.20 for 24 hours or S-18C HW > 3.10: open 7 culverts

S-177 HW > 4.30 or S-18C HW > 3.30: open 13 culverts

CLOSE CULVERTS: Closing of the culverts at S-197 will begin after the following conditions have been met:

1) When headwater canal stage (stage upstream of the structure) at S-176 has declined below 5.2 ft NGVD and headwater stage at S-177 has declined below 4.2 ft NGVD. Stage levels above 5.2 ft and 4.2 ft, respectively, at these structures trigger mandatory flood control releases. A declining trend in water levels below this stage would indicate the peak of the storm event has passed.
2) Position of the storm has moved away from the basin.

3) Once conditions 1 and 2 above have been met, only the number of S-197 culverts required to match the residual discharge volume flowing through S-176 will remain open. This will prevent unnecessary over-drainage of the panhandle region by restricting the amount discharged through S-197 to equal the amount of inflow from the upper basin. All culverts will be closed once the S-177 headwater stage declines below 4.1 ft NGVD and the above conditions are satisfied.

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*HW = Headwater stage upstream of the structure

**Due to the discharge capacity of S-177, headwater stage levels upstream of this structure may decline abruptly once the structure is opened. Culverts at S-197 will remain closed until S-177 has been completely opened. This lag time will allow the canal levels to equalize and provide an opportunity for flood waters to first discharge through the C-111 gaps. After the S-177 gates have been fully opened and canal stage level continues to exceed the flood control criteria, culverts at S-197 will be opened according to the criteria above.

FLOOD DISCHARGE CHARACTERISTICS

	Design
Discharge Rate	2400 cfs 40% SPF
Headwater Elevation	1.4 feet
Tailwater Elevation	0.6 feet
Type Discharge	Uncontrolled submerged

DESCRIPTION OF STRUCTURE

Type	Corrugated metal pipe culvert with upstream control
Number of barrels	3
Size of barrels	84 inches
Length of barrels	66 feet
Flow line elevation	-8 feet

Service bridge elevation 5.5 feet

Water level which will by-pass structure 5 feet

Control structure Discharge is controlled by manually operated sluice gates at the upstream end of the culvert.

Type Corrugated metal pipe culvert and riser with upstream control

Gates

- Number 3
- Type Sluice gate supported by timber structure at upstream end of culvert
- Size 84 inch diameter
- Control Manual

Number of barrels 10

Size of barrels 84 inches

Length of barrels 66 feet

Flow line elevation -8 feet

Service bridge elevation 8.5 feet

Water level which will by-pass structure 5 feet

Size of the riser 96 inches

Top of the riser 7 feet

Control structure Discharge is controlled by manually operated lift gates at the upstream end of the riser pipe.

Gates

- Number 20
- Type Two metal slide gates at the face of each riser
- Size 48 inches wide by 12 feet high
- Control Manual

ACCESS: From U. S. Highway 1 via a short access road on the north side of C-111

HYDRAULIC AND HYDROLOGIC MEASUREMENT

Water level	Remote digital upstream and downstream recorder
Gate position	None

DEWATERING FACILITIES None

NOTE: Boards on NE side of C-111 between S-18C & S-197 set to elev. 2.0 ft. on June 15, 1982.

54 gaps on SW side of C-111 between S-18C & S-197. Elev. 0.20' to 1.60' ave. = 1.00' width = 72' to 120 ft., ave. = 92 ft.